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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Peter C. Williams

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EXAMINER

MARTINO, MICHAEL N

ART UNIT

PAPER NUMBER

3679

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/518,869

Applicant(s)

WILLIAMS, PETER C.

Examiner

Michael N. Martino

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>03/21/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Fig 1A, "66", Figs 2A and 2B, "66, 68", Fig 5A, " α , θ , 102", dimensions "D1, D2, D3", and Fig 5B, " θ , 95a".

The drawings are further objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Fig 3 is missing "101", a "web portion" as set forth in the specification on page 8, line 28.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 5, which depends upon claim 1, is objected to because of the following informalities: claim 1 sets forth, among other things, first and second fitting components with first and second annular surfaces. Claim 5 sets forth "wherein said first fitting component is a male threaded nut", but the nut is described as having female threads on page 5, lines 5-7 of the specification and is shown with female threads 64 in Fig 1A. Should claim 5 read --wherein first fitting component is a male threaded *body* and second fitting component is a female threaded *nut*-- instead?
3. Claims 21, 22, and 25 are objected to for the same reason as for claim 5 above; "body" should be --nut-- instead. Nowhere do the drawings illustrate the body as having a gripping element, trepan, nor sealant as set forth here in the instant claims. If this claim language is intended, then a drawing objection will be noted in a subsequent action.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6, 8, 10-14, 16-18, and 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Rex et al (EP 0531068A2).

Regarding claim 1, Rex et al teach a tube fitting (1), comprising:

(a) a first fitting component (3) and a second fitting component (4) that are joinable (see Figs 1,5, or 7 and column 3, lines 25-28); said first fitting component having an interior bore adapted to receive a conduit end (see Fig 1 showing pipe within); said bore having a camming surface (as 11 of Fig 2) at one end thereof;

(b) a conduit gripping element (6 of Figs 1 and 2, or as 306 of Fig 7) attached to said second fitting component; and

(c) a sealant material (112 of Fig 3) disposed in the fitting and that forms a backup seal outward said conduit gripping element upon pull-up of the fitting (see column 1, lines 35-53 and column 4, lines 31-42, especially wherein column 1, line 52 and column 4, line 41 "seals against" denotes that a main seal is formed between the radially compressed interior annular nut portion 106 and the tube/pipe's exterior surface, defining 112 as the "backup" seal, that being deformed into annular space 108, which is outward of the gripping element 306).

Regarding claim 2, Rex et al teach the fitting of claim 1 wherein said first fitting component has a first annular surface (as 111 of Fig 4) outside said camming surface (220 as shown in Fig 6, or 311 of Fig 7); said second fitting component has a second annular surface (as closed end of 108) outside said conduit gripping element; and said sealant is disposed on at least one of said first and second annular surfaces (end of 111 of Fig 3).

Regarding claim 3, Rex et al teach the fitting of claim 2 wherein said first and second annular surfaces extend generally radially relative to a longitudinal axis of the fitting (see column 4, line 12 where “perpendicular to axis” is synonymous with “generally radially relative to...axis” and annular space 108 is formed by a radial extension at its closed end).

Regarding claim 4, Rex et al teach the fitting of claim 2 wherein said sealant is squeezed between said first and second annular surfaces upon pull-up of the fitting (see column 4, lines 31-37 where “pull-up” of Rex et al’s joint results in o-ring 112 contacting the annular surface at the closed end of 108, though this condition is not shown).

Regarding claim 5, Rex et al teach the fitting of claim 1 wherein said first fitting component is a male threaded nut (4 of column 3, line 21) and said second fitting component is a female threaded body (as sleeve 3 of column 3, lines 22 and 23). Note the claim objection above regarding the applicant’s use of “nut” and “body” as possibly being reversed herein. It is assumed to be so for the purpose of this rejection.

Regarding claim 6, Rex et al teach the fitting of claim 5 wherein said components comprise metal (Rex et al are silent as to the component materials, though

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this does not preclude metal as a possibility, noting the cross-hatch symbols used in the figures as those representing metal).

Regarding claim 8, Rex et al teach the fitting of claim 1 wherein said second fitting component comprises a surface that forms a part of a trepan (closed end of 108, and as described in column 2, lines 24-28) within said component, with said sealant being disposed within said trepan (see column 4, lines 31-34).

Regarding claim 10, Rex et al teach the fitting of claim 1 wherein said conduit is tubing (column 1, lines 4 and 5).

Regarding claim 11, Rex et al teach the fitting of claim 1 wherein said conduit is pipe (column 1, lines 4 and 5).

Regarding claim 12, Rex et al teach the tube fitting of claim 1 wherein said sealant comprises a soft metal, plastic, elastomer, viscous hydrocarbon or fluorocarbon grease, paste, or film (column 2, lines 51-54 teach plastics).

Regarding claim 13, Rex et al teach the tube fitting of claim 1 wherein said sealant forms a backup seal for said conduit gripping element (see column 1, lines 35-53 and column 4, lines 31-42, especially wherein column 1, line 52 and column 4, line 41 "seals against" denotes that a main seal is formed between the radially compressed interior annular nut portion 106 and the tube/pipe's exterior surface, defining 112 as the "backup" seal, that being deformed into annular space 108, which is outward of the gripping element 106).

Regarding claim 14, Rex et al teach the tube fitting of claim 1 wherein said conduit gripping element extends from said second fitting component in a cantilevered manner (note 6 as shown in Figs 1 and 2, or 106 in Fig 3).

Regarding claim 16, Rex et al teach a tube fitting (1), comprising:

- (a) a nut (4) and a body (3) that are joinable (see Figs 1,5, or 7 and column 3, lines 25-28); said body having an interior bore adapted to receive a conduit end (see Fig 1 showing pipe within); said bore having a camming surface (11) at one end thereof;
- (b) a conduit gripping element (as 306 of Fig 7) attached to said nut; and
- (c) a sealant material (112 of Fig 3) disposed in the fitting and that forms a backup seal outward said conduit gripping element upon pull-up of the fitting (see column 1, lines 35-53 and column 4, lines 31-42, especially wherein column 1, line 52 and column 4, line 41 "seals against" denotes that a main seal is formed between the radially compressed interior annular nut portion 106 and the tube/pipe's exterior surface, defining 112 as the "backup" seal, that being deformed into annular space 108, which is outward of the gripping element 106).

Regarding claim 17, Rex et al teach the fitting of claim 16 wherein said sealant is disposed in a trepan (closed end of 108, and as described in column 2, lines 24-28) of said nut (see column 4, lines 31-38).

Regarding claim 18, Rex et al teach the fitting of claim 16 wherein said conduit comprises tubing or pipe (column 1, lines 4 and 5).

Regarding claim 21, Rex et al teach a component of a fitting for gripping and sealing a conduit end (column 2, lines 21-36), comprising:

- (a) a body having an interior surface (4 of column 3, line 21);
- (b) a gripping element attached to said body (6);
- (c) and a sealant (as 112) disposed inside said body.

Note the claim objection above, wherein terms “body” and “nut” as used here are assumed as reversed for the purpose of this rejection.

Regarding claim 22, Rex et al teach the component of claim 21 wherein said sealant is disposed in a trepan (closed end of 108, and as described in column 2, lines 24-28) formed in said body (see column 4, lines 31-38).

Regarding claim 23, Rex et al teach the component of claim 22 wherein said sealant is disposed in said trepan as a backup seal outward a gripping element seal area (see column 1, lines 35-53 and column 4, lines 31-42, especially wherein column 1, line 52 and column 4, line 41 “seals against” denotes that a main seal is formed between the radially compressed interior annular nut portion 106 and the tube/pipe's exterior surface, defining 112 as the “backup” seal, that being deformed into annular space 108, which is outward of the gripping element 106).

Regarding claim 24, Rex et al teach the component of claim 21 wherein said sealant comprises a soft metal, plastic, elastomer, viscous hydrocarbon or fluorocarbon grease, paste, or film (column 2, lines 51-54 teach plastics).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 7, 9, 19, 20, 25, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rex et al (EP 0531068A2).

Regarding claims 7 and 19, Rex et al teach all the elements of claims 1 and 16 as set forth in the above paragraph 5, but do not teach explicitly the fitting components nor the conduit as being comprised of stainless steel. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to select stainless steel as the material with which to make the fitting components or conduit as a matter of design choice for the purpose of handling higher temperature fluids with greater corrosion resistance and durability over other materials. Furthermore, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claims 9, 20, and 25, Rex et al teach the fitting or component as set forth above in paragraph 5 for claims 1, 16, and 21, but do not teach that the conduit gripping element is separable from the fitting/component upon pull-up of the fitting. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the attached gripping element as taught by Rex et al separable for

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the purpose of easier handling, or to provide a self-gauging feature since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Regarding claim 27, Rex et al teach all the elements of this claim as set forth in paragraph 5 above for claims 1, 16, and 21, except for a method of forming a seal comprising:

- (a) depositing a sealant in said trepan of said threaded fitting nut;
- (b) placing said threaded fitting nut around said tube;
- (c) engaging said threaded fitting body with said threaded fitting nut;
- (d) tightening said threaded fitting body onto said threaded fitting nut such that

said ferrule deforms and embeds itself in said tube and said sealant is partially squeezed out of said trepan and forms a fluid seal around the nut, body and tube.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the fitting as taught by Rex et al by the method set forth herein by the applicant for the purpose of assembling a leak tight joint (see columns 1 and 2).

Regarding claim 28, Rex et al teach the elements of claim 27, wherein said sealant is a soft metal, plastic, elastomer, viscous hydrocarbon or fluorocarbon grease, paste, or film (column 2, lines 51-54 teach plastics).

8. Claims 15, 26, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rex et al as applied to claims 16, 21, and 27 above, and further in view of Frieberg (DD 250744).

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Regarding claims 15, 26, and 29, Rex et al teach all the elements of claims 1, 21, and 27 as set forth in paragraphs 5 and 7 above, but do not teach the use of sealant in the form of a liquid carrier suspension. However Frieberg teaches a sealant in the form of a liquid carrier suspension (see abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the fitting as taught by Rex et al with the sealant in a liquid carrier suspension as taught by Frieberg for allowing a secondary seal to be sprayed onto the fitting either during manufacturing or just prior to use, thus giving it better leak protection during use, without having to manufacture a specially shaped and/or separate seal element.

Conclusion

9. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 2,251,717 Parker for its nut, body, camming surface, and gripping element
US 2,284,216 Kunkel for its nut, body, trepan, and seals
US 2,330,841 Parker for its nut, body, camming surface, and gripping element
US 2,779,610 Risley for its nut, body, camming surface, and seal with trepan
US 3,499,671 Osborne for its nut, body, camming surface, and gripping element
US 3,668,754 Boast for its nut, body, trepan, and seal
US 3,684,322 Kotsakis for its nut, body, gripping element, and seal
US 3,830,532 Roberts for its nut, body, camming surface, and gripping element
US 3,857,591 Voss for its nut, body, camming surface, and grip ring with seal
US 4,586,731 Castrup for its nut, body, and frangible grip ring
US 4,826,218 Zahuranec for its nut, extended body, camming surface and grips
JP 60139988A2 ETEKK for its nut with cantilevered gripping element/trepan
JP 56124787A2 Rui Maruteri for its cantilevered gripping element/trepan

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael N. Martino whose telephone number is 571-272-7480. The examiner can normally be reached on 7:00am to 3:30pm, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MNM

Michael N. Martino
4 December 2006



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